

Application No. 09/577,034
Amendment dated September 4, 2003
Reply to Office Action of May 20, 2003 and Advisory Action of August 5, 2003

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims

1. (Previously Amended) A polarization controlled optical energy source comprising:

a laser source element that produces a light output that has at least two polarization states; and

a polarization medium positioned in proximal relation to the laser source element for polarizing the light output in a third polarization state that selects and attenuates each of at least two polarization states equally or substantially equally.

2. (Original) The source of Claim 1, wherein said laser source element is disposed within a component package having an emission aperture formed therein.

3. (Original) The source of Claim 2, wherein said polarization medium provides linear polarization.

4. (Previously Amended) The source of Claim 3, wherein said laser source element has multiple distinct polarization states oriented with respect to one another at angular intervals.

5. (Previously Amended) The source of Claim 4, wherein said polarization medium is aligned to provide linear polarization along an axis that equally selects and attenuates the distinct polarization states.

6. (Original) The source of Claim 1, wherein said laser source element is a vertical cavity surface emitting laser.

7. (Original) The source of Claim 6, wherein said vertical cavity surface emitting laser is disposed within a component package having an emission aperture formed therein.

8. (Original) The source of Claim 7, wherein said polarization medium provides linear polarization.

9. (Previously Amended) The source of Claim 8, wherein said laser source element has two distinct polarization states that are normal to one another.

10. (Previously Amended) The source of Claim 9, wherein said polarization medium is aligned to provide linear polarization along an axis that is at about 45 degrees to both distinct polarization states.

11. (Original) The source of Claim 10, wherein said polarization medium is affixed to the component package spanning the emission aperture.

12. (Original) The source of Claim 10, wherein said polarization medium is disposed within the component package between the vertical cavity surface emitting laser and the emission aperture.

13. (Original) The source of Claim 10, wherein said polarization medium is formed from a sheet polarization material.

14. (Original) The source of Claim 10, wherein said polarization medium is formed by the application of polymer-based polarization material.

15. (Previously Amended) A method for VCSEL polarization control comprising the steps of:

providing a VCSEL element that produces a light output that has one and/or both of at least two polarization states;

providing a polarization medium that polarizes the light output in a third polarization state; and

positioning the polarization medium in proximal relation to the VCSEL element so that the third polarization state selects and attenuates each of the at least two polarization states equally or substantially equally.

16. (Original) The method of Claim 15, wherein the step of providing a polarization medium further comprises providing a polarization medium that provides linear polarization.

17. (Previously Amended) The method of Claim 16, wherein the step of providing a VCSEL element further comprises providing a VCSEL element having two distinct polarization states that are normal to one another.

18. (Previously Amended) The method of Claim 17, wherein the polarization medium is aligned to provide linear polarization along an axis that is at about 45 degrees to both distinct polarization states.

19. (Original) The method of Claim 15 further comprising the steps of:
providing a component package having an emission aperture formed in a surface thereof;
disposing the VCSEL element within the component package; and

affixing the polarization medium to the component package spanning the emission aperture.

20. (Previously Amended) A vertical cavity surface emitting laser component comprising:

a package base, having a first self-aligning feature formed therein for indicating an alignment axis, the alignment axis not necessarily being in-line with the self-aligning feature;

a vertical cavity surface emitting laser device, having at least two emission polarization states normal to one another, disposed adjacent the package base and aligned such that each emission polarization state is at about 45 degrees with respect to the alignment axis;

a package cover, having a second self-aligning feature and an upper surface aperture formed therein, coupled to the package base such that the first and second self-aligning features matingly engage; and

a linear polarization element, having a polarization direction, spanning the aperture and disposed such that the polarization direction is parallel or substantially parallel to the alignment axis.

21. (Previously Amended) A polarization controlled optical energy source comprising:

a laser source element for producing a light output that has one and/or both of at least two polarization states; and

polarization means for polarizing the light output in a third polarization state that selects and attenuates each of the at least two polarization states equally or substantially equally.

22. (Previously Amended) A method for providing a relatively constant light intensity output from a light source that produces a light beam that has at least two polarization states, the method comprising the steps of:

Application No. 09/577,034
Amendment dated September 4, 2003
Reply to Office Action of May 20, 2003 and Advisory Action of August 5, 2003

providing a polarization medium that polarizes the light beam in a third polarization state;
and

positioning the polarization medium in line with the light beam of the light source so that the
third polarization state of the polarization medium selects and attenuates each of the at least two
polarization states equally or substantially equally.